

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160211****Date:10-07-2023****Subject Name:Automobile Chassis and Body Engineering****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Differentiate between chassis, frame and automobile body.	03
	(b) Explain the vehicle roof and vehicle side panel assemble	04
	(c) Describe various types of materials used for body construction	07
Q.2	(a) Classify types of car bodies.	03
	(b) Differentiate between chassis frame and automobile body	04
	(c) Explain different forces and moments with their effect on the vehicle	07
	OR	
	(c) Write a short note on wind tunnel testing of a scale model.	07
Q.3	(a) Classify the types of bus body.	03
	(b) Explain crumple zone in vehicle	04
	(c) Explain the SSS method for a simple van.	07
	OR	
Q.3	(a) Classify types of commercial vehicle bodies.	03
	(b) Describe the aerodynamic force and moments.	04
	(c) Define Blind Spot. Describe various methods to reduce blind spot in sedan car.	07
Q.4	(a) Describe dashboard of vehicle in detail	03
	(b) Explain the body trims.	04
	(c) What is the difference between of Active safety and Passive safety?	07
	OR	
Q.4	(a) Explain Crashworthiness.	03
	(b) Explain construction and working of safety belt for occupants	04
	(c) Explain the various equipment used for door opening and closing of vehicle.	07
Q.5	(a) What is ergonomics? Explain in brief	03
	(b) Explain the working of Airbags in vehicle.	04
	(c) Explain the chassis and body alignment test.	07
	OR	
Q.5	(a) Explain the concept of H-point referencing.	03
	(b) Give the requirements of pedestrian safety.	04
	(c) Describe human ergonomics for driver's seat design.	07
